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ABSTRACT

Although many community colleges have attempted to relate college work to individual needs, there is little evidence that student input actually influences the structure and organization of a course or curriculum. The Advancement Studies (developmental studies) Department at Central Piedmont Community College has developed a system for student reaction to the persons (teacher, student), properties (content, materials, time), and processes (instruction, evaluation) of each course. A Student Reaction questionnaire consisting of four questions relating to the structure and organization of the course, ten questions relating to the student's emotional reaction to the course, and two spaces for write-in responses, was developed by the Advancement Studies Department (ASD). This questionnaire is administered to students in all department courses during the fifth week of an eleven week quarter; because they are machine processed, results are available by the end of the sixth week. Following a literature review and an analogue model of systemic analysis for education, the new system and the results of its first administration are reviewed. Results indicate that all eleven courses are more oriented to processes and properties than to persons, and that courses receiving high student ratings tend to have high retention rates. Student reactions to each of the eleven courses are detailed and recommendations for the improvement of each course are made. (DC)

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STUDENT REACTIONS AND THEIR IMPLICATIONS FOR SYSTEMIC ANALYSIS IN THE ADVANCEMENT STUDIES DEPARTMENT

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By

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A Practicum presented to Nova University in partial fulfillment of requirements for the Degree of Doctor of Education

Nova University

September 25, 1974

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Introduction

Today there have been more cries from the student than ever before. Today's student is demanding and outspoken. This same student at Central Piedmont Community College expects his college work to somehow reveal something about life and its purposes and at the same time be related to each person individually.[1]

Probably students have been expecting these things for as long as colleges have been in existence. But it seems that the cries and expectations are voiced louder and come from more directions than ever before.

Even though many in community colleges seem aware of students' cries and expectations, little evidence can be found to substantiate that these demands actually influence the structure and organization of a course or a curriculum.

The problem seems to be that the whole educational system has not yet developed a system for analyzing its own persons, processes and properties. We haven't yet developed a system for analyzing the system we use.

Since students are the largest users of our system, they ought to be the most valuable source of data for systems analysis. Among Advancement Studies at Central Piedmont Community College a system

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[1]Griffin, Thomas E. Governance of Central Piedmont Community College. Page 22.

for student reaction has been implemented to gain data.[2]

This study represents a proposal to use systemic analysis for decision making as outlined in the concept of Educational Sciences as developed by Joe Hill and his staff at Oakland Community College in Michigan. And this study also advocates a system for receiving and analyzing student reactions to courses and relating those reactions to the persons, processes, and properties of each course.

According to Bruce Tuckman author of Conducting Educational Research and lecturer on Educational Research, "research should be done in the field where possible."[3] In this study the field is actually the learning environment with the focus on the students' reaction to that environment.

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[2]Griffin, Thomas E. "A Student Reaction" Page 1.

[3]Tuckman, Bruce W. Conducting Educational Research. Harcourt, Brace and Jovanovich, Inc. New York, 1972. Page IV.

Background and Significance

It is not an overstatement to say that the systems concept is rapidly becoming the nucleus of decision making in the age of automation and cybernetics.[4] Educators must have a good understanding of the concept, otherwise they will become limited in their professional field.

The generation of increasingly diversified forms and amounts of knowledge within each of the disciplines combined with increased human conditions complexities, have further increased the need for, and the use of, the systems concept in contemporary society.[5]

If man is considered to be a social creature with the unique capacity for deriving meaning from his environment and personal experiences through the use of the symbols, then human existence can be viewed as a variety of systems of symbolic meanings. If this condition is assumed to exist, education can be thought of as the process by which man seeks meaning.[6]

To facilitate formal education, educators arrange persons (teachers, students), processes (instruction, evaluation), and properties (content, materials, time) into systems of meanings called curricula.

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[4]Hill, Joseph E. How Schools Can Apply System Analysis. Phi Delta Kappa Educational Foundation, 1972. Page 7.

[5]Ibid. Page 7.

[6]Frankl, Voctor. Man's Search for Meaning. Simon and Schuster, 1963. Page 154.

For example, a curriculum of general education can be thought of as a system of essential meanings including the basic skills of communication, mathematics, and science.

General system theory probably began with preliminary work in physics and biology during the 1920's but it was not until the late 1940's that a trend began to emerge in many disciplines. The book Cybernetics by Norbert Wiener, generalized the respective concepts of feedback and information to biological and social systems, and made a great impression throughout the realm of science.[7]

During the early 1950's the notion of general system theory attracted behavioral scientists as a basic approach to providing frameworks for concept organization in the behavioral sciences and related fields of knowledge (education). Numerous efforts were made to apply the theory to education, but their mathematical emphasis tended to discourage their acceptance.

During the latter part of the 1950's, a group at Wayne State University began formalized work on a set of disciplines called the educational sciences. Factual description, concepts, generalizations, theories and laws that might comprise a scientific conceptual framework (general system) for education could be of many kinds. Education was considered to be a process of searching

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[7]Hill, Joseph E. How Schools Can Apply System Analysis. Phi Delta Kappa Educational Foundation, 1972. Page 12.

for meaning, and this process, in turn, was considered as a social system involving the generic elements (subsystems) of persons, processes, and properties and their interconnections considered over a period of time.[8]

There were seven aspects of this process that were fundamental to its existence. These seven aspects become the seven educational sciences of: Symbols and Their Meanings; Cultural Determinants; Modalities of Inference; Memory; Cognitive Style; Teaching, administrative and Counseling Styles, and Systemic Analysis Decision Making (SAD).[9] It is through the application of the science of systemic analysis decision making that the efforts of this practicum have been directed.

"A system is a defined collection of elements with their interconnections considered over a period of time."[10] In the context of this definition of a system, Figure 1, page 6 is an analogue model for systemic analysis model for education.

Recently "the discipline of formalized analogy and the construction of analogical models have become techniques whereby new, logical and profound relationships have been discovered in the physical and natural sciences."[11] It is this same application to education that this study will show.

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[8] Ibid. Page 12

[9] Ibid. Page 15

[10] Ibid. Page

[11] Land, Goerge T. Grow or Die. Random House, New York, 1973 Page 6.

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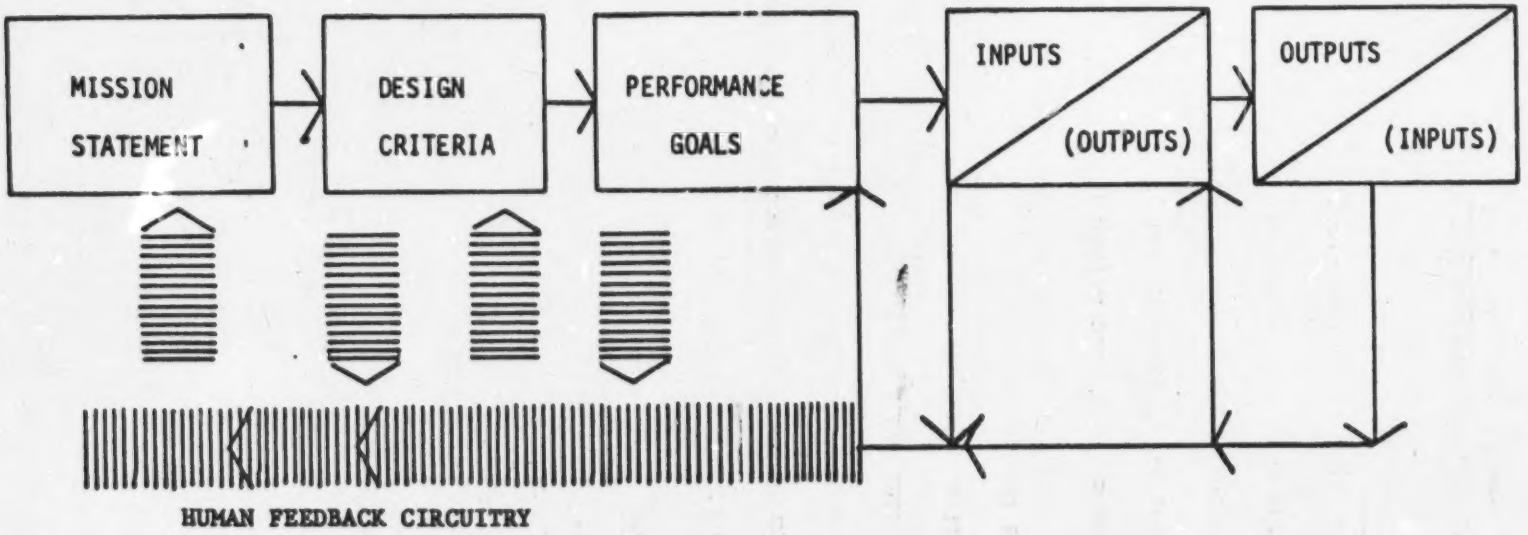

AN ANALOGUE MODEL OF SYSTEMIC ANALYSIS FOR EDUCATION

Procedures

The student generally has been viewed as a client who received services. The institution has assumed the responsibility to define the conditions under which the services are to be received. This assumption does not appear to be safe for the future.[12]

Since Central Piedmont Community College is an open door institution, and since it takes a philosophical stance in favor of individualized learning experiences, it is very necessary to secure large amounts of input from its students. This input must then be analyzed and applied to the system under which the college operates.[13]

The Advancement Studies Department (developmental studies) which includes courses in Math, Reading, Communications and Science is even more acutely aware of the need for student input. For virtually all of its students are seeking new opportunities for learning. Nearly all of Advancement Studies students are products of a system that somehow or other failed them.

With the need to develop a systematic method for receiving student reaction to their courses in Advancement Studies, the department developed the questionaire on the following page. (See Table 1) It was agreed to receive the students' reaction during the fifth week of an eleven week quarter. With the fifth week being near the midpoint of

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[12] Richardson, C. et. al. Governance for the Two-Year College. Prentice Hall, Englewood Cliffs, New Jersey. 1972, pp. 64 & 65.

[13] Griffin, Thomas E. "Preferred Learing Styles" page 4.

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TABLE 1

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STUDENT REACTION

I. What is your reaction to the structure and organization of this course? On Side I of your answer sheet use spaces 1, 2, 3, 4 for recording your responses to question 1 - 4. Space A is for yes, space B for no.

Use the back of your answer sheet for any comments. Simply number. For example, if you comment for # 1, write 1., and beside the number your comment.

1. Were the objectives of this course made clear to you? YES NO

2. Are you satisfied that you are accomplishing the objectives? YES NO

3. Do the objectives of this course seem related to your own personal goals? YES NO

4. Do you feel that you have had an appropriate amount of expert individual advise and consultation from your instructor? YES NO

I. What is your emotional reaction to this course? Please judge us. If your feeling is extremely close to one of the words, mark space A or E on your answer sheet. If your feeling is netural, mark space C. If your feeling is not extreme but strong mark space B or D. On your answer sheet use the spaces 5 - 14 for recording your responses.

	A	B	C	D	E	
5. Worthless						Valuable
6. Difficult						Easy
7. Not Involved						Involved
8. Unimportant						Important
9. Dull						Interesting
10. Useless						Useful
11. Monotonous (Boring)						Varied
12. Impersonal						Personal
13. Unfair						Fair
14. Ordinary						Far Out
	A	B	C	D	E	

I. Write your responses to these questions on the back of your answer sheet.

15. What do you like most about this class?

16. What change would you make in this class?

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the quarter, it was felt that it would be easier to get a major number responding during this time.

Four questions of the questionaire relate to the structure and the organization of the course. These four questions require a yes or no response and the responses are tabulated with a percentage yes and a percentage no. These questions reflect the process and properties orientation of the system. Item 5 through 14 are seeking the student's emotional responses to the course. These items require the student to rate his emotional reaction to the course on a five point scale. These items can also be equated to the persons part of the system. Position one on the scale is the lowest rating and position 5 is the highest. Computation of the students' emotional responses is on a weighted scale basis and is arrived at by multiplying the number of responses times the number of the position on the scale. These products are then added and divided by the total number of responses.

Item fifteen and sixteen on the questionaire are write in responses that give the student a chance to react to the course in any manner he wishes. These reactions are recorded as they are and returned to the instructor.

This form of a student reaction was developed and implemented during the fall quarter of 1973. Fall quarter's experience with the reaction was sorted, tabulated, and computed manually. Between fall and winter quarter the reaction form was revised slightly and converted to a scanable format so that the data could be machine processed.

With this system it is now possible to generate the data during the fifth week of a quarter and to have the results in the hands of each instructor by the end of the 6th week of the same quarter.

It is hoped that this system will give instructors the benefit of a student reaction to the course before the course has ended. It is also expected that the data gained from the reaction will be the basis for structuring performance goals for future quarters.

Over a three quarter period 1965 student reactions to Advancement Studies courses have been received and tabulated. (See Appendix 1 for departmental summary for each of the three quarters.)

The system of Advancement Studies under analysis from the students' point of view will hopefully lead to some better ways of teaching and learning. It should be noted that the data being analyzed in this report is strongly oriented toward persons and processes and only toward properties as properties relate to materials within the learning environment.

Data gained from these student reactions will be analyzed according to the following criteria:

1. Three quarters of data will be totaled and summarized for each course in Advancement Studies.
2. These summaries will be combined for a departmental summary.
3. For the first four items at least 90% affirmative response will be the desired.

4. For items 5 through 14 one is a very poor rating; two is poor; 3 is neutral and is perhaps desirable on item 6 (Difficult - Easy); four is good, and five is excellent.

The problem of measuring the proficiency of the human component in a man-machine system is a difficult one. Proficiency in a program such as Advancement Studies is a consequence of many contributions. The performance of individuals and groups of individuals within the system, their capabilities, the design of their jobs and equipment and their effective utilization within the system.[14]

The methods of performance measurement has advanced considerably since the early days of Central Piedmont Community College (10 years ago) but substantial research must still be considered with regard to the relationship between the processes, properties and persons that make up the system.

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[14]Merrill, David M. Ed. Instructional Design: Readings. Prentice-Hall, Inc. Englewood Cliffs, New Jersey, 1971. Page 354.

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Results

Continuous student reaction to courses certainly generates ample data for decision making. Each course in Advancement Studies seems to have some identifiable characteristics. Some of these characteristics apparently relate to the structure and organization of the course (processes and properties) and others relate to feelings and attitudes about the course (persons). The more positive reactions seem to point to the success pattern of the course. At least in terms of the number of students retained.

English 9300 received an average 90.8% positive response to the processes and properties part of the course and an average 3.91 rating to the persons part of the course. (See Tables 2 and 3) During this same period 81.6% of the enrolled students were retained.

English 9301 received an average 96.5 positive response to the processes and properties part of the course and an average 4.75 rating on the persons part of the course. (See Tables 4 and 5.) During this same period 80.6% of enrolled students were retained. (See Table 4.)

English 9305 received an average 92.2 positive response to the

processes and properties part of the course and an average 4.90 response to the persons part of the course. (See Tables 5 and 6) During this period 74.2% of the enrolled students were retained. (See Table 5.)

English 9310 received an average 88.3 positive response to the processes and properties part of the course and an average 3.95 rating on the persons part of the course. (See Tables 7 and 8.) During this same period 76.8% of the enrolled students were retained. (See Table 7.)

Math 9300 received an average 89.0 positive response to the processes and properties part of the course and an average 4.0 rating on the persons part of the course. (See Tables 9 and 10.) During this same period 64.6% of the students enrolled were retained. (See Table 9.)

Math 9302 received an average 85.1 positive response to the processes and properties part of the course and an average 3.78 rating to the persons part of the course. (See Tables 11 and 12.) During this same period 61.6% of enrolled students were retained.

Math 9310 received an average 84.6 positive response to the processes and properties part of the course and an average 3.61 rating on the persons part of the course. (See Tables 13 and 14.) During this same period 64.4% of enrolled students were retained. (See Table 13.)

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Math 9311 received an average 84.4 positive response to the processes and properties part of the course and an average 3.86 rating to the persons part of the course. (See Tables 15 and 16.) During this same period 67.6% of enrolled students were retained.

Chemistry 9200 received an average 94.4 positive response to the processes and properties part of the course and an average 3.98 rating to the persons part of the course. (See Tables 17 and 18.) During this same period 74.7% of enrolled students were retained.

Reading 9212 received an average 86.5 positive response to the processes and properties part of the course and an average 3.31 rating to the persons part of the course. (See Tables 19 and 20.) During this same period 82.6% of enrolled students were retained.

Reading 9210 received an average 89.2 psoitive response to the processes and properties part of the course and an average 3.92 rating on the persons part of the course. (See Tables 21 and 22.) During this same period 79.0% of enrolled students were retained.

All courses considered together received an average 89.0 response to the processes and properties parts of the courses and an average 3.91 rating on the persons part of the course. (see Tables 23 and 24.) During this same period 72.5% of enrolled students were retained.

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Discussion

Almost without question the tabulated results of student reactions do give an indication of the results of the course. The higher the rating the course receives, the higher the retention rate. And the lower the student reaction, the lower the retention rate. Out of the eleven courses under investigation there were perhaps two exceptions: MAT 9300 received an average 89% positive response to the processes and properties part of the course and 4.0 rating to the persons part and only 64.8% of enrolled students were retained. And RDN 9212 received an 86.5 postiive response to the processes and properties part of the course and 3.31 rating to the persons part. Yet 82.6% of the enrolled students were retained Perhaps there is a relationship to the kind of course also.

Even though the results do not clearly specify the relationship between student reactions and retention rates, the results do clearly indicate that all these courses are more processes and properties oriented than persons oriented. And from the point of view of this investigator, it seems entirely probable to use student reaction data for systemic analysis according to the processes, the properties, and the persons of each course. The recommendations of this study are indicative of the kinds of decisions that can emanate from this analysis.

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TABLE 2

English 9300
Course

Three Quarter Summary of Students' Reaction to Course Processes and Properties and Enrollment Data

1. Were the objectives of this course made clear to you?

   Yes 92.2%.

2. Are you satisfied that you are accomplishing the objectives?

   Yes 90.9%

3. Do the objectives of this course seem related to your own personal goals?

   Yes 90.3%

4. Do you feel that you have had an appropriate amount of expert individual advise and consultation from your instructor?

   Yes 89.8%

Enrollment Data

	Fall		Winter		Spring		Average	
Enrolled	228		154		148		176	
Retained	197	86.4	135	87.6	105	70.9	132	81.6
Completed	158	80.2	86	63.7	67	63.8	103	69.2

Legend:

Figures are for Fall of 1973 through Spring of 1974

Enrolled is defined as those students who registered and attended at least once.

Retained is defined as those students who did not withdraw or stop attending.

Completed is defined as those students who completed all the objectives for the course.

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These same students felt the course was good on the scale (4.00 - 4.99) Worthless - Valuable, Unimportant - Important, Useless - Useful, Unfair - Fair. (See Table 3).

If the first four items of the questionaire reflect primarly properties and processes and item 5 - 14 reflect persons, then English 9300 is consistently more process and properties oriented than persons oriented.

English 9301 students said yes 98.2% of the time to item one, 95.2% to item two, 95.2% to item three, and 97.5% to item four. (See Table 4.) English 9301 retained 80.6% of its students and completed 70.0% of those. (See Table 4.)

These same students feel the course is good (4.00 - 4.99) on all the items except Difficult - Easy which rates a 3. (A neutral reaction is perhaps desirable on this rating.) (See Table 5.) During the three quarter period under investigation this course gained in enrollment from fall to spring while all the others lost.

From these student reactions it would seem that English 9301 is highly process and properties and at the same time is highly persons oriented.

English 9305 (Spelling) students said yes 96.3% of the time to item one, 87.3% to item 2, 98.2% to item 3 and 87% to item 4. (See Table 6.) During this same period English 9305 retained 74.2% of the students is enrolled and completed 55% of those. (See Table 6.)

Students emotional reaction to English 9305 was 3.08 Difficult - Easy; 3.79 Monotonous - Varied; 3.21 Ordinary - Far Out. Students rated the course 4.43 on Worthless - Valuable; 4.29 Not Involved - Involved; 4.56 Unimportant - Important; 4.03 Dull - Interesting; 4.70 Useless - Useful;

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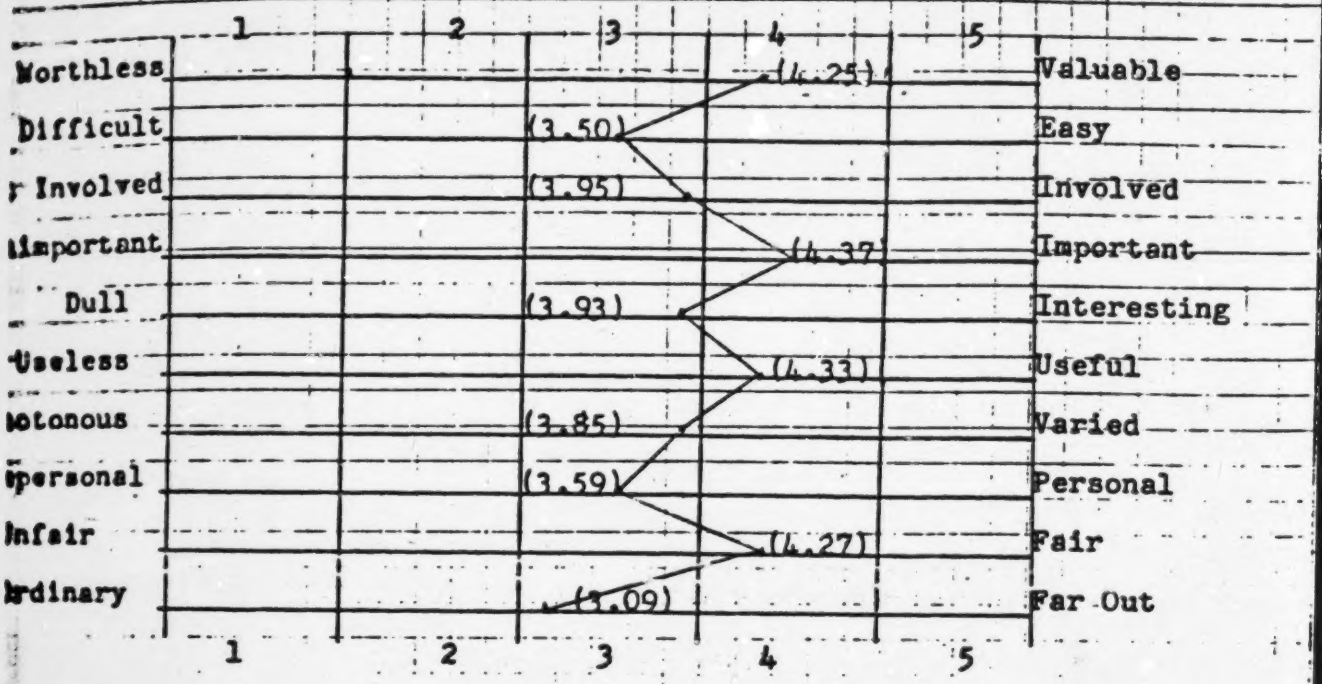
English 9300 Course

TABLE 3

Three Quarter Summary of Students' Emotional Reaction
(Persons)



Legend:

1=Lowest Rating

5=Highest Rating

3=Neutral

3 is considered desirable on Difficult to Easy Scale

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TABLE 4

English 9301
Course

Three Quarter Summary of Students' Reaction to Course Processes and Properties and Enrollment Data

1. Were the objectives of this course made clear to you?

   Yes 98.2%

2. Are you satisfied that you are accomplishing the objectives?

   Yes 95.2%

3. Do the objectives of this course seem related to your own personal goals?

   Yes 95.2%

4. Do you feel that you have had an appropriate amount of expert individual advise and consultation from your instructor?

   Yes 97.6%

Enrollment Data

	Fall		Winter		Spring		Average	
Enrolled	90		115		132		112	
Retained	71	78.8	97	83.6	105	79.5	91	80.6
Completed	41	57.7	61	62.8	94	89.5	65	70.0

Legend:

Figures are for Fall of 1973 through Spring of 1974

Enrolled is defined as those students who registered and attended at least once.

Retained is defined as those students who did not withdraw or stop attending.

Completed is defined as those students who completed all the objectives for the course.

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English 9301
Course

TABLE 5

Three Quarter Summary of Students' Emotional Reaction
(Persons)

1	2	3	4	5	
Worthless				(4.83)	Valuable
Difficult		(3.52)			Easy
Involved				(4.72)	Involved
Unimportant				(4.96)	Important
Dull				(4.95)	Interesting
Useless				(4.95)	Useful
Monotonous				(4.94)	Varied
Impersonal				(4.91)	Personal
Unfair				(4.90)	Fair
Ordinary				(4.82)	Far Out
1	2	3	4	5	

Legend:

1=Lowest Rating

5=Highest Rating

3=Neutral

3 is considered desirable on Difficult to Easy Scale

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TABLE 6

English 9305
Course

Three Quarter Summary of Students' Reaction to Course Processes and Properties and Enrollment Data

1. Were the objectives of this course made clear to you?

   Yes 96.3%

2. Are you satisfied that you are accomplishing the objectives?

   Yes 87.3%

3. Do the objectives of this course seem related to your own personal goals?

   Yes 98.2%

4. Do you feel that you have had an appropriate amount of expert individual advise and consultation from your instructor?

   Yes 87.0%

Enrollment Data

	Fall		Winter		Spring		Average	
Enrolled	35		24		12		23	
Retained	24	68.6%	17	70.8%	10	83.3%	17	74.2%
Completed	13	54.2%	7	41.2%	7	70.0%	9	55.0%

Legend:

Figures are for Fall of 1973 through Spring of 1974

Enrolled is defined as those students who registered and attended at least once.

Retained is defined as those students who did not withdraw or stop attending.

Completed is defined as those students who completed all the objectives for the course.

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4.28 Impersonal - Personal; and 4.56 on Unfair - Fair. (See Table 7.)
Student reactions rate English 9305 high in processes and properties and good (4.00 - 4.99) on six items of the emotional (persons) scale and neutral (3.00 - 3.99) on four of the items.

English 9310 (Fundamentals of Writing) students reacted yes 92.9% of the time to item one, 89.7% to item two, 81.5% to item three and 88.9% to item four. (See Table 8.)
During this three quarter period English 9310 retained 76.8% of its enrolled students and 90.8% of these students completed. (see table 8.)
On the emotional scales these same students rate English 9310 neutral (3.00 - 3.99) in the following: 3.61 on the Difficuly - Easy; 3.71 on Not Involved - Involved; 3.74 on Dull - Interesting; 3.67 on Monotonous - Varied; 3.61 on Impersonal Personal and 3.22 on Ordinary - Far Out.
Students rated English 9310 higher on Worthless - Valuable, 4.12; Unimportant - Important, 4.25; Useless - Useful, 4.31; and Unfair - Fair, 4.37. (See Table 9.)
Therefore students judge English 9310 good on process and properties and neutral (3.00 - 3.99) on six of the emotional (persons) scales and good (4.00 - 4.99) on four of the scales.

Math 9300 (Arithmetic) students reacted yes 93% of the time to item one, 91.8% to item two, 87.0% to item three and 84.3% to item four. (See Table 10.)
During this period Math 9300 retained 64.8% of its enrolled students and 65.7% of those completed. (See Table 10.)
On the emotional scales these same students rated Math 9300 neutral (3.00 -

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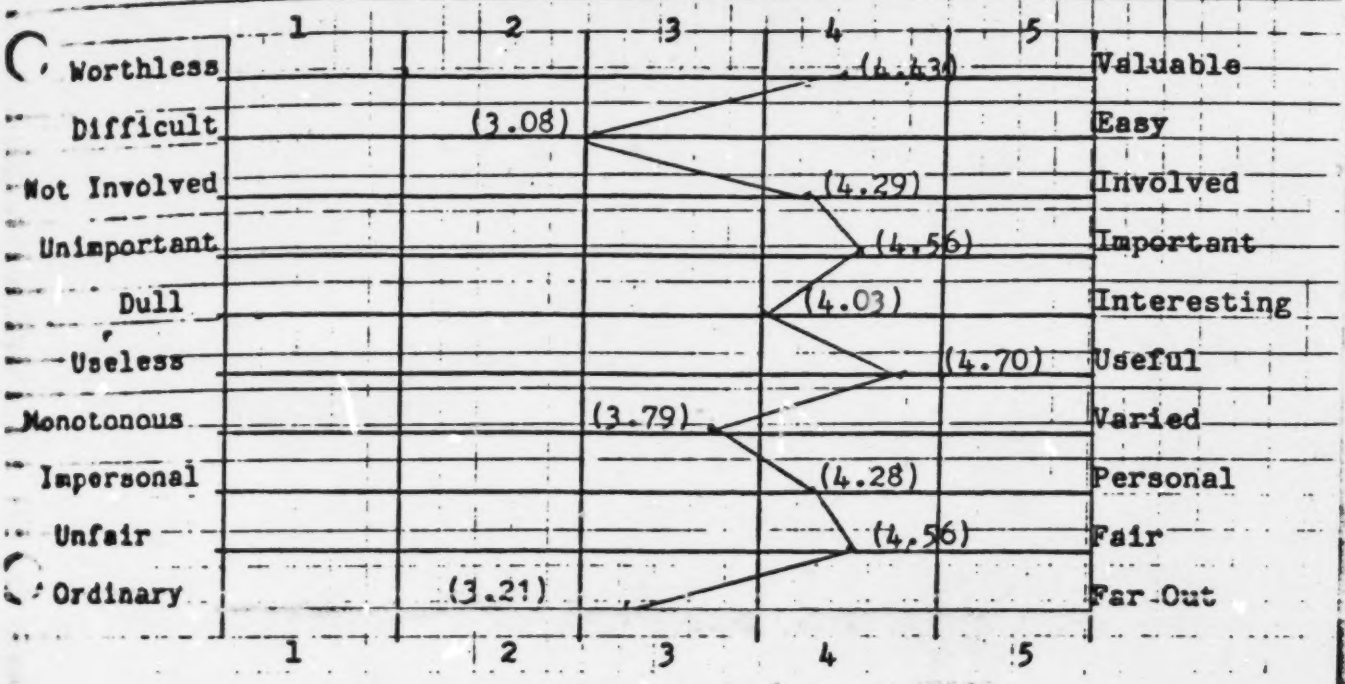
English 9305
Course

TABLE 7

Three Quarter Summary of Students' Emotional Reaction
(Persons)



Legend:

1=Lowest Rating

5=Highest Rating

3=Neutral

3 is considered desirable on Difficult to Easy Scale

English 9310
Course

TABLE 8

Three Quarter Summary of Students' Reaction to Course Processes and Properties and Enrollment Data

1. Were the objectives of this course made clear to you?

   Yes 92.9%

2. Are you satisfied that you are accomplishing the objectives?

   Yes 89.7%

3. Do the objectives of this course seem related to your own personal goals?

   Yes 81.5%

4. Do you feel that you have had an appropriate amount of expert individual advise and consultation from your instructor?

   Yes 88.9%

Enrollment Data

	Fall		Winter		Spring		Average	
Enrolled	314		167		113		198	
Retained	265	84.4	123	73.7	82	72.6	156	76.8
Completed	242	91.3	112	91.1	74	90.2	145	90.8

Legend:

Figures are for Fall of 1973 through Spring of 1974

Enrolled is defined as those students who registered and attended at least once.

Retained is defined as those students who did not withdraw or stop attending.

Completed is defined as those students who completed all the objectives for the course.

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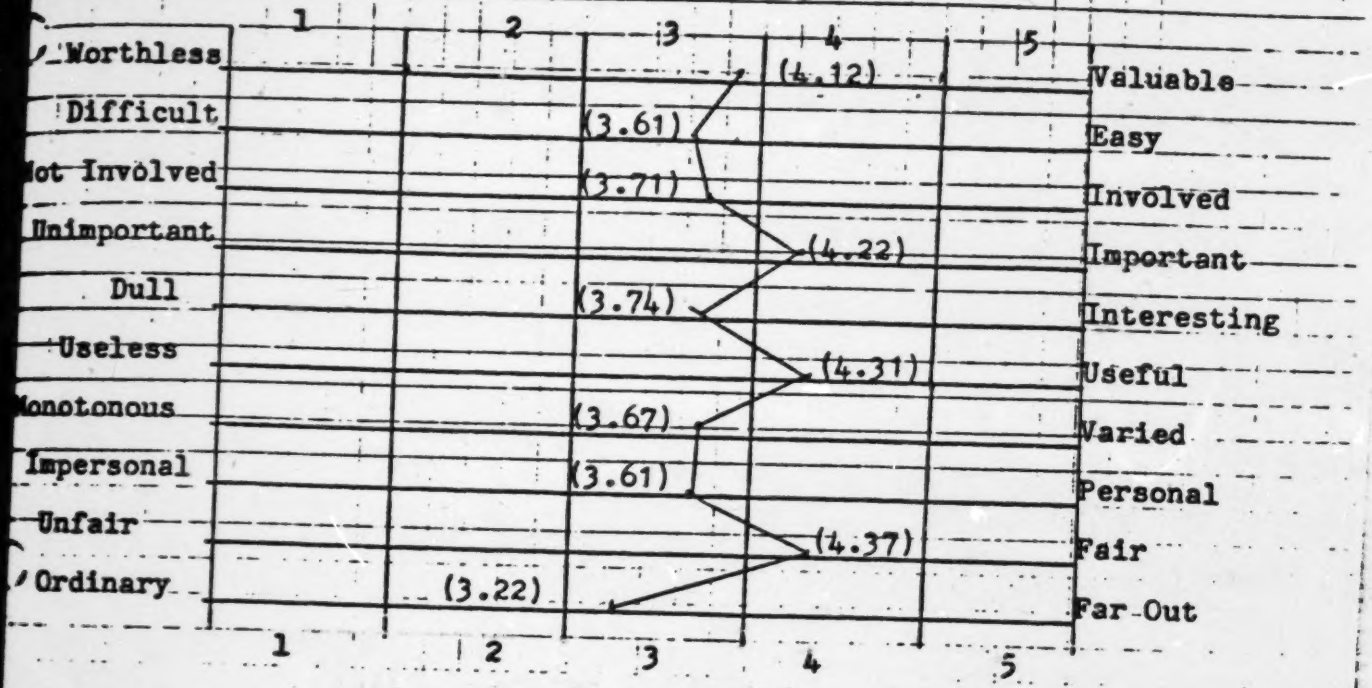
TABLE 9

English 2310
Course

Three-Quarter-Summary of Students' Emotional Reaction
(Persons)



Legend:

1=Lowest Rating

5=Highest Rating

3=Neutral

3 is considered desirable on Difficult to Easy Scale

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TABLE 10

Math 9300
Course

Three Quarter Summary of Students' Reaction to Course Processes and Properties and Enrollment Data

1. Were the objectives of this course made clear to you?

   Yes 93.0%

2. Are you satisfied that you are accomplishing the objectives?

   Yes 91.8%

3. Do the objectives of this course seem related to your own personal goals?

   Yes 87.0%

4. Do you feel that you have had an appropriate amount of expert individual advise and consultation from your instructor?

   Yes 84.3%

Enrollment Data

	Fall		Winter		Spring		Average	
Enrolled	269		221		198		229	
Retained		%		%		%		%
	200	74.3	145	65.6	108	54.5	151	64.8
Completed								
	112	56.0	96	66.2	81	75.0	96	65.7

Legend:

Figures are for Fall of 1973 through Spring of 1974

Enrolled is defined as those students who registered and attended at least once.

Retained is defined as those students who did not withdraw or stop attending.

Completed is defined as those students who completed all the objectives for the course.

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3.99) on the following scales: 3.19 on Difficult - Easy; Not involved - Involved, 3.90; Monotonous - Vaired, 3.82; Impersonal - Personal, 3.78; Ordinary - Far Out 3.62. (See Table 11).

These same students judged Math 9300 to be good (4.00 - 4.99) on the following scales: Worthless - Valuable, 4.44; Unimportant - Important, 4.54; Dull - Interesting, 4.05 and 4.54 on Unfair - Fair. (See Table 11.)

If 90% or better is good on the processes and properties part of the questionaire (Items 1 - 4), then Math 9300 is 50% good. And if a 4.00 rating is good on persons part of the reaction then Math 9300 has a good reaction to 50% of the itmes.

On the processes and properties part of the questionaire, Math 9302 (Algebra) students reacted yes 89% of the time to item one, 81.5% to two, 77.7% to three and 92.3% to item four. (See Table 12.)

During this period Math 9302 retained 61.6% of its enrolled students and completed 37.4% of them.

These same students rated Math 9302 neutral (3.00 - 3.99) on the following emotional (persons) scales: Difficult - Easy, 3.00; Not involved - Involved, 3.75; Dull - Interesting, 3.63; Monotonous - Varied, 3.97; Impersonal - Personal, 3.48 and 2.94 on Ordinary - Far out.

Math 9302 according to students' reactions is only fair in processes and properties and rates 4 or better on only four of the emotional scales.

Math 9310 students responded 93.0% yes to item 1. (See Table 1); 83.5% to item two; 76.0% to item three and 85.9% to item four. (See Table 14.)

During this three quarter period Math 9310 retained 64.4% of its enrollment

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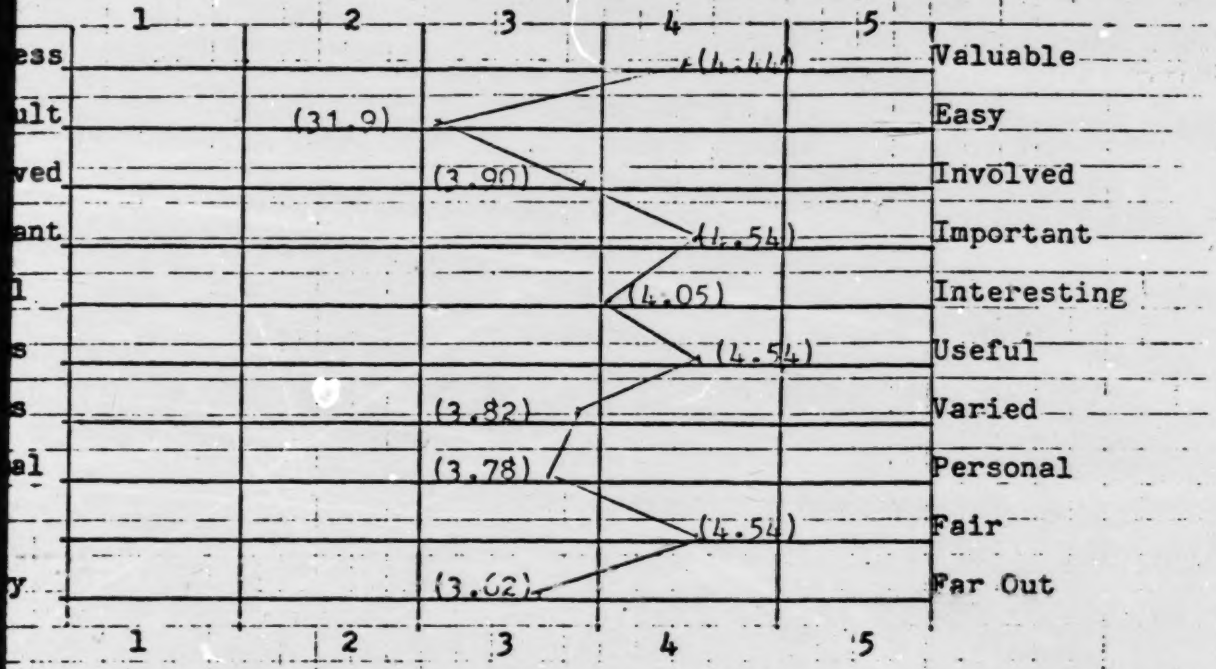
TABLE 11

Math 9300
Course

Three Quarter Summary of Students' Emotional Reaction
(Persons)



Legend:

1=Lowest Rating

5=Highest Rating

3=Neutral

3 is considered desirable on Difficult to Easy Scale

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TABLE 12

Math 9302
Course

Three Quarter Summary of Students' Reaction to Course Processes and Properties and Enrollment Data

1. Were the objectives of this course made clear to you?

   Yes 89.0%

2. Are you satisfied that you are accomplishing the objectives?

   Yes 81.5%

3. Do the objectives of this course seem related to your own personal goals?

   Yes 77.7%

4. Do you feel that you have had an appropriate amount of expert individual advise and consultation from your instructor?

   Yes 92.3%

Enrollment Data

	Fall		Winter		Spring		Average	
Enrolled	312		248		200		253	
Retained	192	61.5	154	62.1	123	61.5	156	61.6
Completed	91	47.4	42	27.3	46	37.4	59	37.4

Legend:

Figures are for Fall of 1973 through Spring of 1974

Enrolled is defined as those students who registered and attended at least once.

Retained is defined as those students who did not withdraw or stop attending.

Completed is defined as those students who completed all the objectives for the course.

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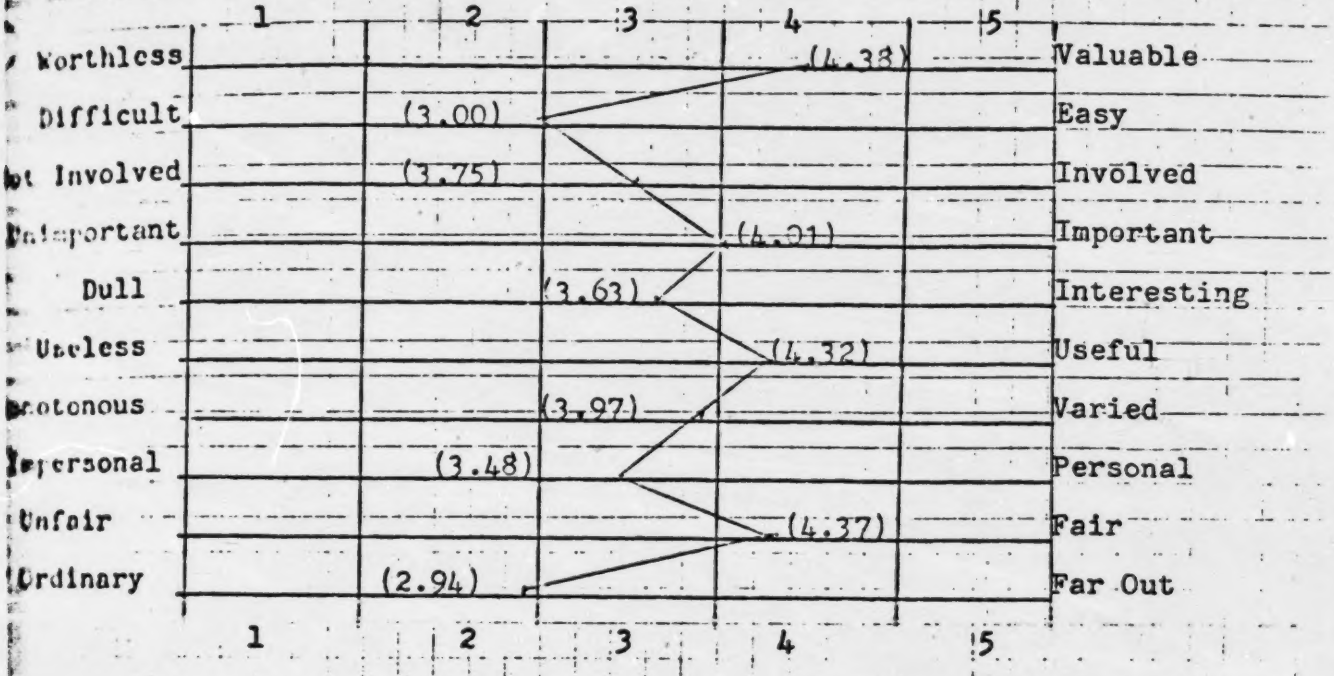
Math 9302
Course

TABLE 13

Three Quarter Summary of Students' Emotional Reaction
(Persons)



Legend:

1=Lowest Rating

5=Highest Rating

3=Neutral

3 is considered desirable on Difficult to Easy Scale

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and completed 65.9% of those. (See Table 14.)

At the same time, Math 9310 students react neutral on the emotional scales Not Involved - Involved, 3.60; Dull - Interesting, 3.33; Monotonous - Varied, 3.36; Impersonal - Personal, 3.18. These same students felt the course rated 2.84 on Difficult - Easy and 2.91 on Ordinary - Far Out. Students rated the course good on Unimportant - Important, 4.22; Useless - Useful, 4.21 and Unfair - Fair, 4.36. (See Table 15.)

Math 9310 then seems to be neither strongly properties and processes oriented nor strongly persons oriented.

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TABLE 14

Math 9310
Course

Three Quarter Summary of Students' Reaction to Course Processes and Properties and Enrollment Data

1. Were the objectives of this course made clear to you?

   Yes 93.0%

2. Are you satisfied that you are accomplishing the objectives?

   Yes 83.5%

3. Do the objectives of this course seem related to your own personal goals?

   Yes 76.0%

4. Do you feel that you have had an appropriate amount of expert individual advise and consultation from your instructor?

   Yes 85.9%

Enrollment Data

	Fall		Winter		Spring		Average	
Enrolled	266		190		118		191	
Retained	180	67.6	123	64.7	72	61.0	125	64.4
Completed	126	70.0	70	56.9	51	70.8	82	65.9

Legend:

Figures are for Fall of 1973 through Spring of 1974

Enrolled is defined as those students who registered and attended at least once.

Retained is defined as those students who did not withdraw or stop attending.

Completed is defined as those students who completed all the objectives for the course.

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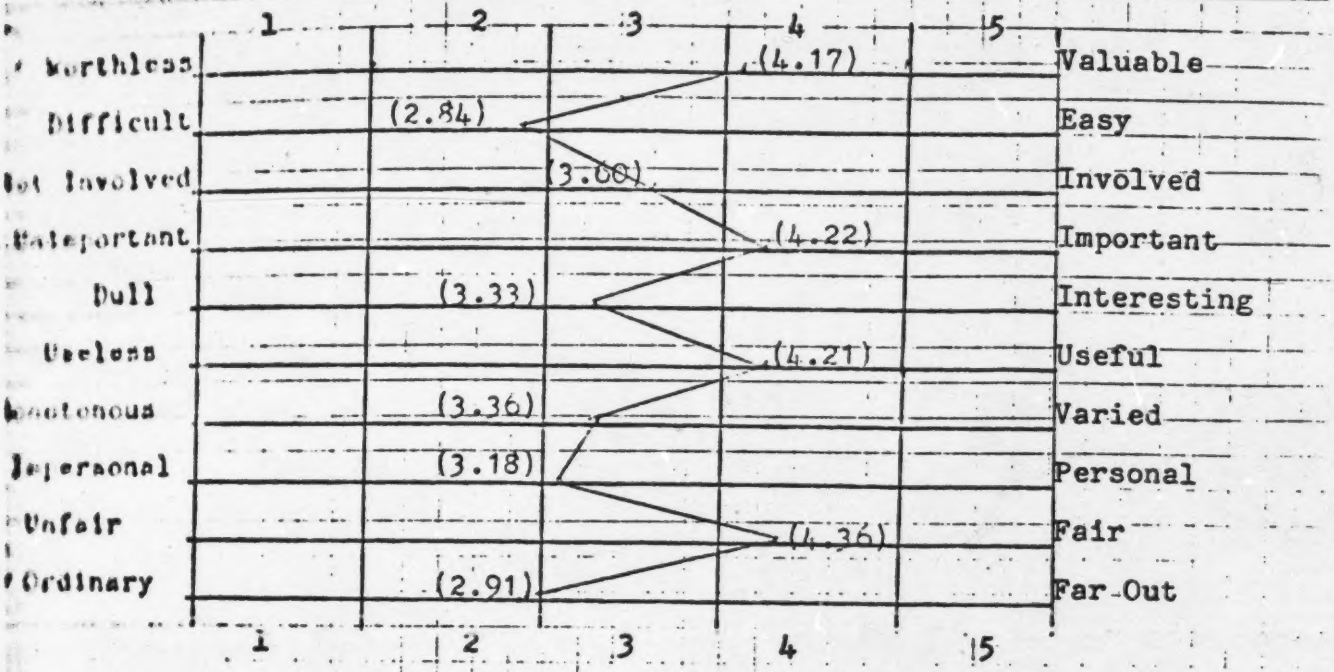
TABLE 15

Math 9310
Course

Three Quarter Summary of Students' Emotional Reaction
(Persons)



Legend:

1=Lowest Rating

5=Highest Rating

3=Neutral

3 is considered desirable on Difficult to Easy Scale

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Math 9311 (Geometry) students reacted yes 90.3% of the times to item one, 79.7% to item two, 80.1% to item three and 87.7% to item four. (See Table 16.)

During this 3 quarter period Math 9311 retained 67.6% of its enrollment and completed 87% of those. (See Table 16.)

These same students rated Geometry 2.66 on the Difficult - Easy scale; 3.88 on Not Involved - Involved; 3.58 on Impersonal - Personal, and 2.92 on Ordinary - Far Out. The course rated good on Worthless - Valuable, 4.38; Unimportant - Important, 4.48; Dull - Interesting, 4.03; Useless - Useful, 4.16; Monotonous - Varied, 4.02 and Unfair - Fair 4.34. (See Table 17.)

Students then seem to rate Math 9311 average to poor on processes and properties and good on a majority of the persons reactions.

Chemistry 9200 students reacted yes 95.1% of the time to item one (See Table 1) 95.3% to item two, 93.1% to item three and 94.3% to item four. (See table 18.)

During this period Chemistry 9200 retained 74.7% of its enrolled students and 48.3% of those completed the course. (See Table 18.)

These same students rate Chemistry 9200 3.39 on Difficult - Easy, 3.69 on Not Involved - Involved; 3.73 on Monotonous - Varied; 3.88 on Impersonal - Personal and 3.32 on Ordinary - Far Out. They rate the course good on Worthless - Valuable, 4.54; Unimportant - Important, 4.42; Dull - Interesting, 4.14; Useless - Useful, 4.29 and Unfair - Fair, 4.43. (See Table 19.)

Chemistry 9200 then according to its students rates high in process and properties and only fair in the persons orientation.

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TABLE 16

Math 9311
Course

Three Quarter Summary of Students' Reaction to Course Processes and Properties and Enrollment Data

1. Were the objectives of this course made clear to you?

   Yes 90.3%

2. Are you satisfied that you are accomplishing the objectives?

   Yes 79.7%

3. Do the objectives of this course seem related to your own personal goals?

   Yes 80.1%

4. Do you feel that you have had an appropriate amount of expert individual advise and consultation from your instructor?

   Yes 87.7%

Enrollment Data

	Fall		Winter		Spring		Average	
Enrolled	41		39		38		39	
Retained	30	73.1	25	64.1	25	65.8	26	67.6
Completed	28	93.3	18	72.0	24	96.0	23	87.1

Legend:

Figures are for Fall of 1973 through Spring of 1974

Enrolled is defined as those students who registered and attended at least once.

Retained is defined as those students who did not withdraw or stop attending.

Completed is defined as those students who completed all the objectives for the course.

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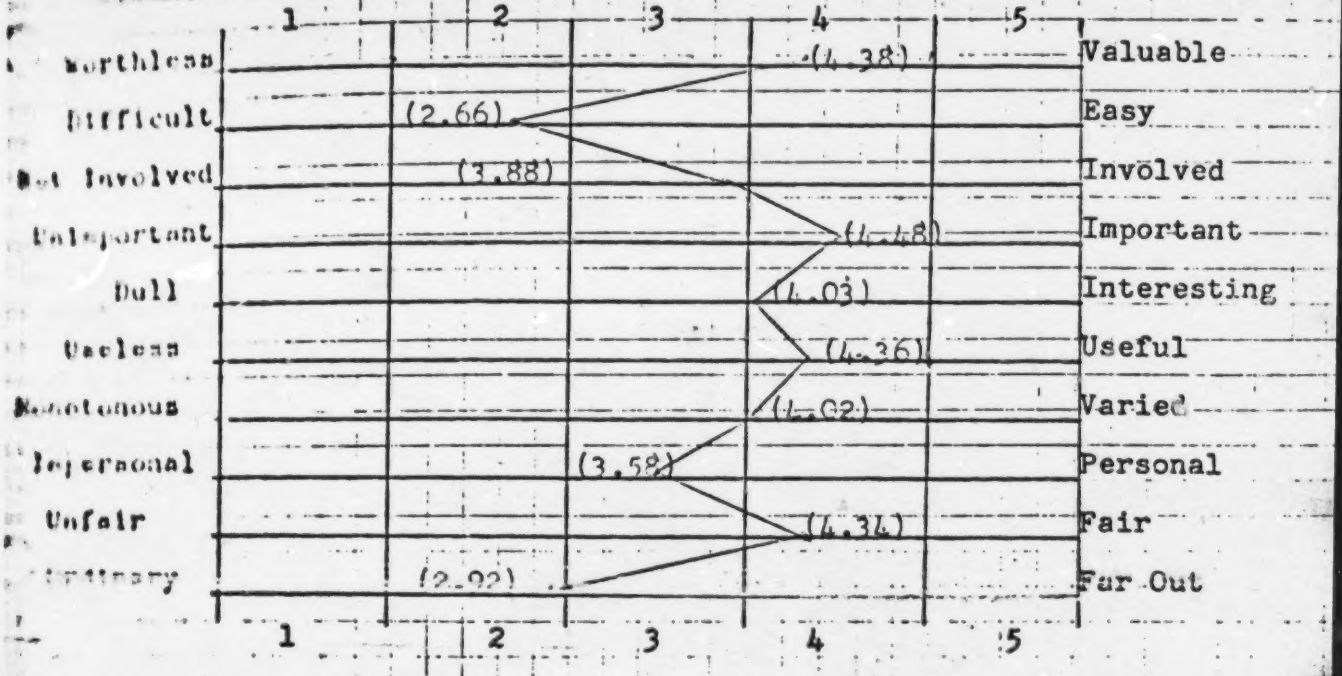
Math 9311
Course

TABLE 17

Three Quarter Summary of Students' Emotional Reaction
(Persons)



Legend:

1=Lowest Rating

5=Highest Rating

3=Neutral

3 is considered desirable on Difficult to Easy Scale

Chemistry 9200
Course

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TABLE 18

Three Quarter Summary of Students' Reaction to Course Processes and Properties and Enrollment Data

1. Were the objectives of this course made clear to you?

   Yes 95.1%

2. Are you satisfied that you are accomplishing the objectives?

   Yes 95.3%

3. Do the objectives of this course seem related to your own personal goals?

   Yes 93.1%

4. Do you feel that you have had an appropriate amount of expert individual advise and consultation from your instructor?

   Yes 94.3%

Enrollment Data

	Fall		Winter		Spring		Average	
Enrolled	95		76		67		79	
Retained	75	78.9 %	64	84.2 %	41	61.2 %	60	74.7 %
Completed	49	65.3	23	35.9	18	43.9	30	52% 38.3

Legend:

Figures are for Fall of 1973 through Spring of 1974

Enrolled is defined as those students who registered and attended at least once.

Retained is defined as those students who did not withdraw or stop attending.

Completed is defined as those students who completed all the objectives for the course.

Chemistry 9200
Course

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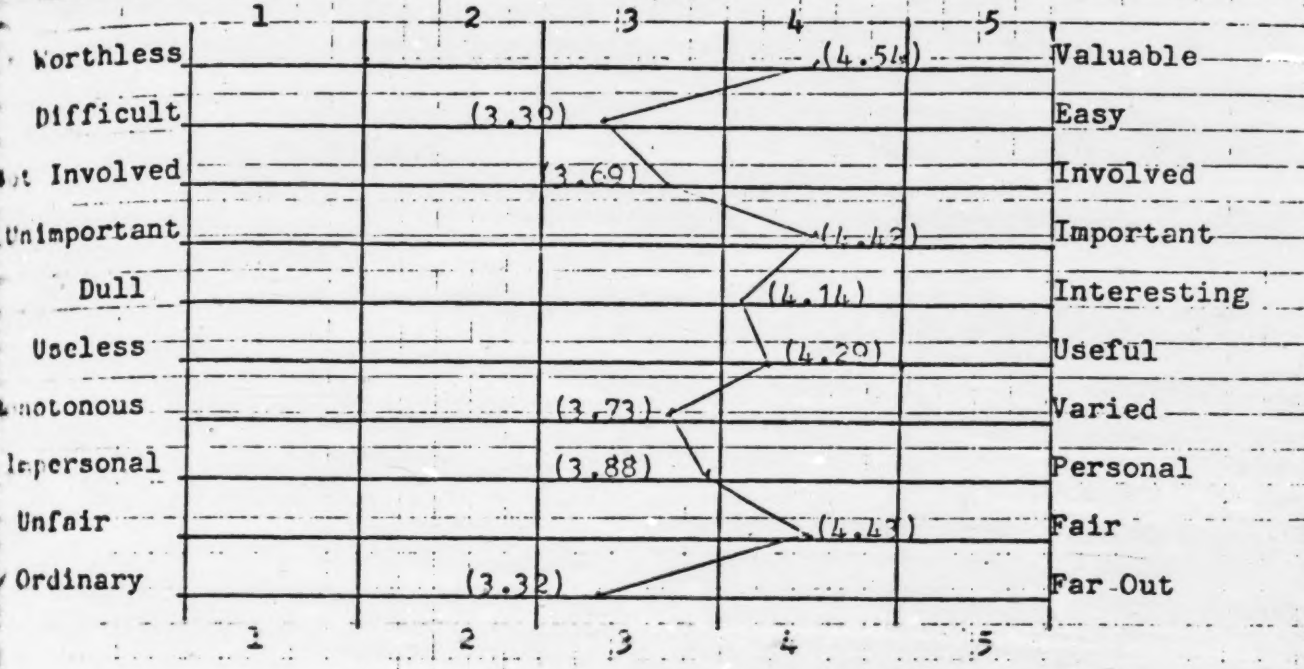
TABLE 19

Three Quarter Summary of Students' Emotional Reaction
(Persons)



Legend:

1=Lowest Rating

5=Highest Rating

3=Neutral

3 is considered desirable on Difficult to Easy Scale

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Reading 9212 (Speed Reading) students reacted yes 93.6% of the time to item one (See Table 1), 85.0% to item two, 96.5% to item three and 71.0% to item four. (See Table 20.)

During this three quarter period, Reading 9212 retained 78.1% of its enrollment and completed 83.7% of those. (See Table 20.)

These same students rate Reading 9212 2.99 on Difficult - Easy; 3.48 on Impersonal - Personal and 3.43 on Ordinary - Far Out. They rate the course good on Worthless - Valuable, 4.61; Not involved - Involved, 4.16; Unimportant - Important, 4.83; Dull - Interesting, 4.28; Useless - Useful, 4.76; Monotonous - Varied, 4.04 and Unfair - Fair 4.27. (See Table 21.)

Speed Reading then according to its students is high in persons orientation but lacking in processes and properties orientation.

Reading 9210 (Reading Improvement) students reacted yes 92.4% to item one, 86.5% to item two, 91.3% to item three and 86.8% to item four. (See Table 22.) During this three quarter period, Reading 9210 retained 83.5% of its enrollment, and completed 82.1% of those. (See Table 22.)

Those same students rate the course 3.28 on Difficult - Easy; 3.95 on Dull - Interesting, 3.75 on Monotonous - Varied; 3.72 on Impersonal - Personal and 3.13 on Ordinary - Far Out. They rate the course good on Worthless - Valuable, 4.42; Not involved - Involved, 4.07; Unimportant - Important, 4.26; Useless - Useful 4.29 and Unfair - Fair, 4.34. (See Table 23.)

Reading 9210 then according to its students is moderately processes and properties oriented and moderately persons oriented.

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TABLE 20

Reading 9212
Course

Three Quarter Summary of Students' Reaction to Course Processes and Properties and Enrollment Data

1. Were the objectives of this course made clear to you?

   Yes 93.6%

2. Are you satisfied that you are accomplishing the objectives?

   Yes 85.0%

3. Do the objectives of this course seem related to your own personal goals?

   Yes 96.5%

4. Do you feel that you have had an appropriate amount of expert individual advise and consultation from your instructor?

   Yes 71.0%

Enrollment Data

	Fall		Winter		Spring		Average	
Enrolled	48		69		40		52	
Retained	37	77.0 %	62	89.8 %	30	75.0 %	43	82.6 %
Completed	36	97.2	44	70.9	28	93.0	36	83.7

Legend:

Figures are for Fall of 1973 through Spring of 1974

Enrolled is defined as those students who registered and attended at least once.

Retained is defined as those students who did not withdraw or stop attending.

Completed is defined as those students who completed all the objectives for the course.

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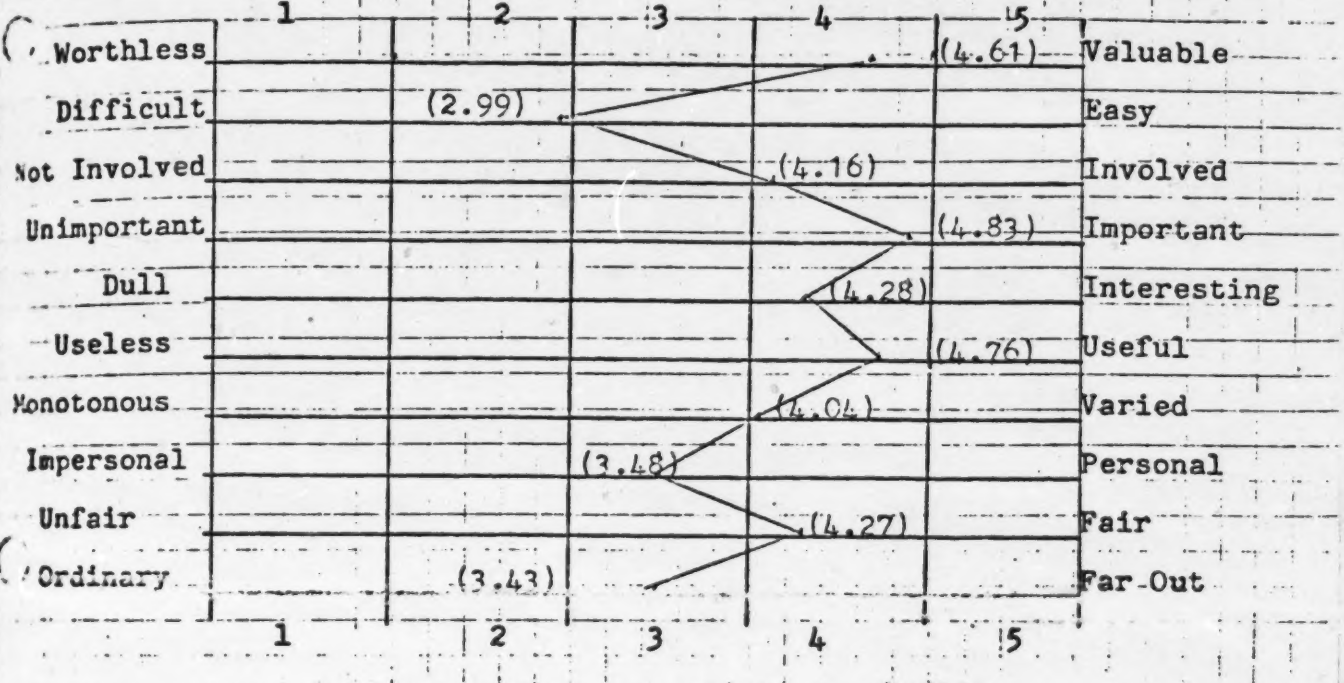
TABLE 21

Reading 9212 Course

Three Quarter Summary of Students' Emotional Reaction (Persons)



Legend:

1=Lowest Rating

5=Highest Rating

3=Neutral

3 is considered desirable on Difficult to Easy Scale

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TABLE 22

Reading 9210
Course

Three Quarter Summary of Students' Reaction to Course Processes and Properties and Enrollment Data

1. Were the objectives of this course made clear to you?

   Yes 92.4%

2. Are you satisfied that you are accomplishing the objectives?

   Yes 86.5%

3. Do the objectives of this course seem related to your own personal goals?

   Yes 91.3%

4. Do you feel that you have had an appropriate amount of expert individual advise and consultation from your instructor?

   Yes 86.8%

Enrollment Data

	Fall		Winter		Spring		Average	
Enrolled	299		168		149		205	
Retained	230	76.9 %	150	89.2 %	106	71.1 %	162	79.0 %
Completed	185	80.4	109	72.6	105	99.0	133	92.0

Legend:

Figures are for Fall of 1973 through Spring of 1974

Enrolled is defined as those students who registered and attended at least once.

Retained is defined as those students who did not withdraw or stop attending.

Completed is defined as those students who completed all the objectives for the course.

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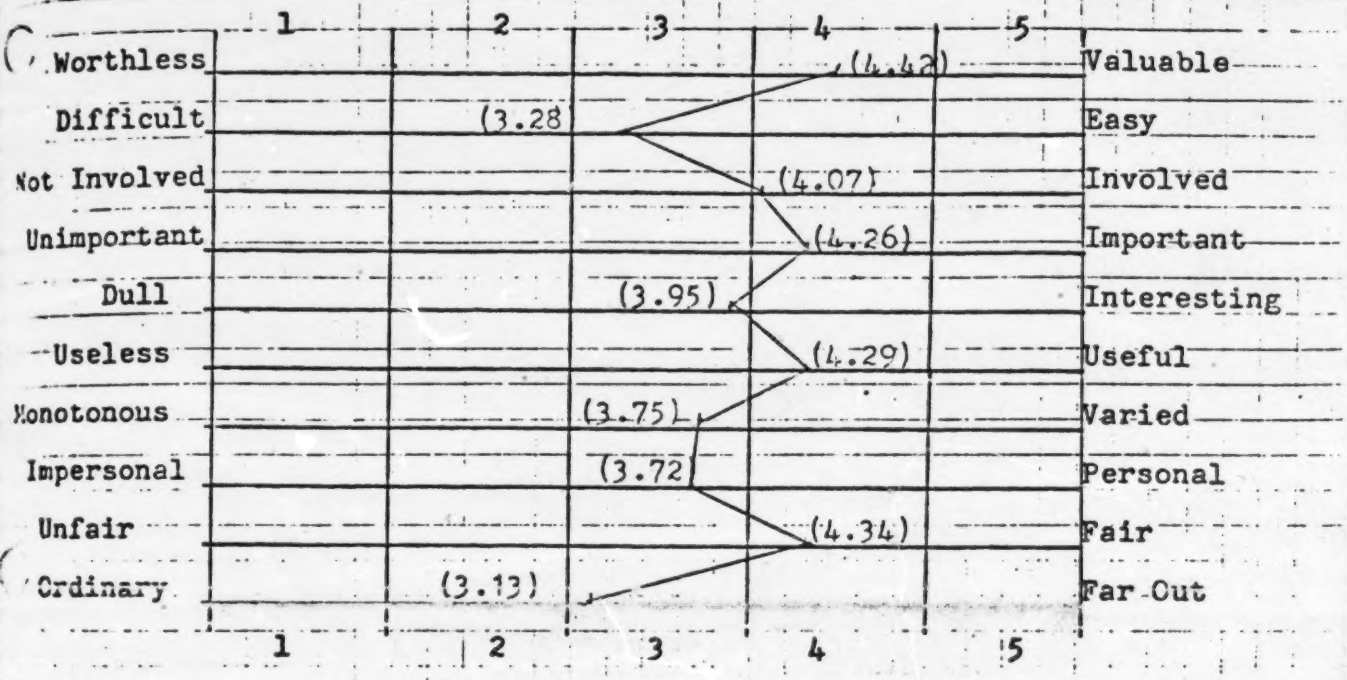
TABLE 23

Reading 9210
Course

Three Quarter Summary of Students' Emotional Reaction
(Persons)



Legend:

1=Lowest Rating

5=Highest Rating

3=Neutral

3 is considered desirable on Difficult to Easy Scale

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By combining all these individual course summaries into a single summary it is possible to arrive at a departmental summary.

Considering the whole department, 93.2% of the students said yes to item one, while 88.2% said yes to item two and 85.8% said yes to item three and 88.8% said yes to item four. During this period under investigation Advancement Studies as a department retained 72.5% of its enrolled students and completed 68.5% of those. (See Table 26.)

Summarizing again, students rate Advancement Studies 3.28 on the Difficult - Easy scale, 3.93 on Not Involved - Involved, 3.93 on Dull - Interesting, 3.80 on Monotonous - Varied, 3.68 on Impersonal - Personal, and 3.06 on Ordinary - Far out. Students rate Advancement Studies 4.37 on Worthless - Valuable, 4.73 on Unimportant - Important, 4.34 on Useless - Useful and 4.45 on Unfair - Fair. (See Table 25.)

As a department then, Advancement Studies is more processes and properties oriented than persons oriented. For while the department rates 86 - 93% positive on the questions relating to processes and properties it only rates better than neutral in four categories: valuable, important, useful and fair.

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Department
Course

Three Quarter Summary of Students' Reaction to Course Processes and Properties and Enrollment Data

1. Were the objectives of this course made clear to you?

   Yes 93.2%

2. Are you satisfied that you are accomplishing the objectives?

   Yes 88.2%

3. Do the objectives of this course seem related to your own personal goals?

   Yes 85.8%

4. Do you feel that you have had an appropriate amount of expert individual advise and consultation from your instructor?

   Yes 88.8%

   89.8

Enrollment Data

	Fall		Winter		Spring		Average	
Enrolled	1990		1485		1221		1565	
Retained	1505	75.6	1107	74.5	825	67.6	1145	72.5
Completed	1078	71.6	685	61.9	596	72.2	786	68.5

Legend:

Figures are for Fall of 1973 through Spring of 1974

Enrolled is defined as those students who registered and attended at least once.

Retained is defined as those students who did not withdraw or stop attending.

Completed is defined as those students who completed all the objectives for the course.

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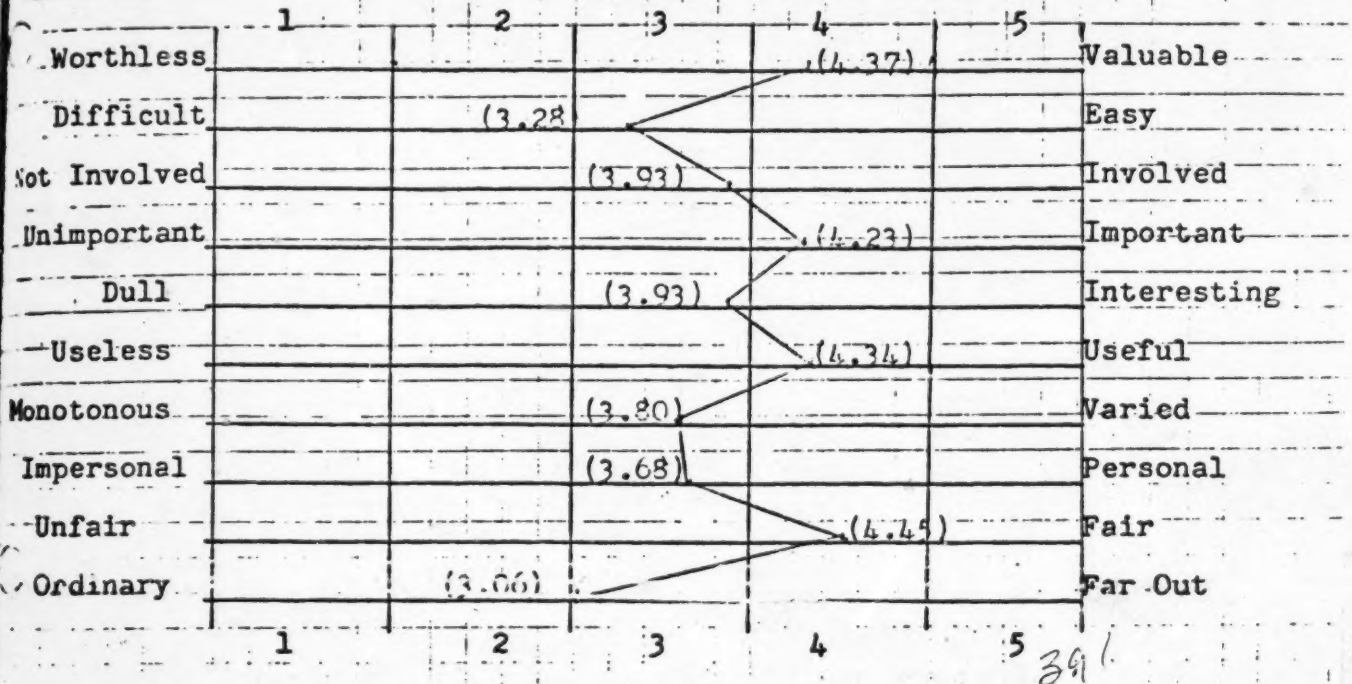
Department
Course

TABLE 25

Three Quarter Summary of Students' Emotional Reaction
(Persons)



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Legend:

1=Lowest Rating

5=Highest Rating

3=Neutral

3 is considered desirable on Difficult to Easy Scale

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Recommendations

It should be noted again that the results of this study are based purely on student reactions. And it should be further noted that from the writer's point of view, if a student perceives a course a certain way, then for that student it is true.

1. English 9300, Fundamentals of Grammar, instructors should revise objectives to allow the student more involvement, inspire the interest of more students, cause more variation and course movement out of the ordinary.

2. English 9301, English for Foreign Students, rates high in all categories, but objectives should be developed to cause the student to feel more involved.

3. English 9305, Spelling, should have objectives that would cause the student to be satisfied that he is accomplishing his objectives and objectives that would allow for more advice and consultation from the instructor. Also changes should be implemented to cause the course to be more varied and more than ordinary.

4. English 9310, Fundamentals of Writing, instructors should effect changes to cause the student to feel he is accomplishing the objectives of the course. Also changes should be brought to cause a relevancy between student goals and course goals. In addition, changes should be effected to allow for: more student involvement, more interesting approaches; more variation; a more

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personal course; and a move away from the ordinary.

5. Instructors in Math 9300, Arithmetic, should effect changes that would allow for more relevancy between course objectives and personal goals and more instructor participation. Also students need to be more involved, the course needs more variation, and needs to be less impersonal, and more than ordinary.

6. Instructors in Math 9302, Algebra I, need to affect changes that will increase student satisfaction that he is accomplishing his objectives. And special attention should be given to make the course more relevant to personal goals. Additionally the students need to be more involved, the course needs to be more interesting, less monotonous, more personal and more than ordinary.

7. Instructors in Math 9310, Developmental Algebra, need to effect changes that will increase student satisfaction that he is accomplishing his objectives. Extra attention needs to be given to making the course relevant and more instructor attention needs to be given. Also the course needs to be more involving, more interesting, more varied, more personal and less ordinary.

8. Instructors in Math 9311, Plane Geometry, need to effect changes to cause more student satisfaction that objectives are being accomplished. The course needs to be more relevant. Also the course should be a bit easier, more involved, more personal and more than ordinary.

9. Instructors in Chemistry 9200, Fundamentals of Chemistry, need to

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allow for more student involvement and more variation. The course should also be made to be more personal and more than ordinary.

10. Instructors in Reading 9212, Speed Reading, need to effect changes that will give more satisfaction that objectives are being accomplished, and special attention needs to be given to more instructor participation. Also the course needs to be more personal and more than ordinary.

11. Instructors in Reading 9210, Reading Improvement, need to effect changes that will give more satisfaction that objectives are being accomplished, and more instructor involvement is necessary. Also course needs to be more interesting, more varied, more personal, and less ordinary.

12. Advancement Studies should continue to secure student reactions to its courses and relate those reactions to the persons, processes, and properties of each learning environment. Student reactions indicate that Advancement Studies as a department is more processes and properties oriented than persons oriented. It is recommended that both individual course efforts and departmental efforts be doubled toward making the course and the department more persons oriented.

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